January 1936

Test 268: McCormick-Deering Model WK-40 1600 r. p. m.

Tractor Museum
University of Nebraska-Lincoln, TractorMuseumArchives@unl.edu

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 268

Dates of test: August 25 to September 3, 1936.
Name and model of tractor: McCORMICK-DEERING WK-40 (1600 R.P.M.)
Manufacturer: International Harvester Company, Chicago, Illinois.
Manufacturer's rating: NOT RATED.

BRAKE HORSE POWER TESTS

H. P.	Crank shaft speed R.P.M.	Fuel Consumption: Gals. per hour	Fuel Consumption: H. P. hrs. per gal.	Fuel Consumption: Lbs. per H.P. hour	Water Consumption per hour gallons: Cooling	Water Consumption per hour gallons: In fuel	Water Consumption per hour gallons: Total	Temp. Deg. F.: Cooling med.	Temp. Deg. F.: Air	Barometer Inches of Mercury
TEST B 100% MAXIMUM LOAD. TWO HOURS										
45.69	1599	5.395	8.47	0.816	0.000	0.000	0.000	163	75	28.835
TEST C OPERATING MAXIMUM LOAD. ONE HOUR										
43.39	1598	4.392	9.88	0.699	0.000	0.000	0.000	175	74	28.850
TEST D RATED LOAD. ONE HOUR										
41.06	1600	4.274	9.61	0.719	0.000	0.000	0.000	173	75	28.855
TEST E *VARYING LOAD. TWO HOURS										
40.98	1597	4.285	9.56	0.723	--	--	--	171	75	--
0.82	1779	1.698	0.48	14.305	--	--	--	177	75	--
21.66	1693	2.735	7.92	0.873	--	--	--	180	78	--
41.39	1491	4.203	9.85	0.702	--	--	--	172	79	--
11.14	1738	2.232	4.99	1.384	--	--	--	178	79	--
31.64	1649	3.304	9.58	0.722	--	--	--	184	80	--
24.61	1658	3.076	8.00	0.864	0.000	0.000	0.000	177	78	28.870

*20 minute runs. Last line is average for two hours.

DRAWBAR HORSE POWER TESTS

H. P.	Draw bar pull pounds	Speed miles per hour	Crank shaft speed R.P.M.	Slip on drive wheels %	Fuel Consumption: Gals. per hour	Fuel Consumption: H. P. hour per gal.	Fuel Consumption: Lbs. per H.P. hour	Water used Gal. per hour	Temp. Cooling med.	Temp. Air	Barometer Inches of Mercury
TEST F 100% MAXIMUM LOAD. Second GEAR.											
31.79	3465	3.44	1598	6.07	-------Not Recorded-------			168	91		28.420
TEST G OPERATING MAXIMUM LOAD											
30.11	4399	2.57	1602	10.49	-------Not Recorded-------			187	97		28.335
30.57	3314	3.46	1600	5.66	------- " " -------			178	85		28.435
29.56	2739	4.05	1602	5.18	------- " " -------			162	80		28.580
TEST H RATED LOAD. TEN HOURS Second GEAR.											
25.94	2807	3.47	1599	5.43	3.979	6.52	1.060	0.000	178	76	28.740

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BRIEF SPECIFICATIONS

MOTOR: Make Own Serial No. WTM 566 K Type 6 cylinder, vertical

Head I Mounting Crankshaft lengthwise

Bore and stroke: 3 3/4" x 4 1/2" Rated R.P.M. 1600

Port Diam. Valves: Inlet 1 5/8" Exhaust 1 1/2"

Belt pulley: Diam. 16 3/4" Face 9" R.P.M. 599

Magneto Own Model F6

Carburetor Zenith Model 50-AY12 Size 1 1/4"

Governor Own Type Centrifugal

Air Cleaner Own Type Oil-washed, wire-filter

Lubrication Pressure

CHASSIS: Type 4 wheels, 2 drivers Serial No. WKC1690 Drive Enclosed gear

Clutch Own Type Single-plate, dry Operated by Foot pedal

Advertised speeds, miles per hour: First 2.4 Second 3.1

Third 3.6 Reverse 2.2

Drive wheels: Diam. 50" Face 12"

Lugs: Type Spade No. per wheel 32 Size 5" high x 3 1/2" face

Extension rims: Width 6" Lugs per rim 16

Size lugs 5" high x 3 1/2" face

Seat Pressed steel

Total weight as tested (with operator) 7600 pounds.

FUEL AND OIL:

Fuel Distillate Weight per gallon 6.91 pounds.

Oil S.A.E. Viscosity No. 40

Total oil to motor 2.744 gallons

Total drained from motor 3.211 gallons

Total time motor was operated 50 hours

The oil was drained to the side valve after each 10 hours of operation and 1 quart of new oil was added. The oil was completely drained at the end of the test.

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REPAIRS AND ADJUSTMENTS

No repairs or adjustments.

REMARKS

All results shown on page 1 of this report were determined from observed data and without allowances, additions, or deductions. Tests B and F were made with carburetor set for 100% maximum horsepower and these figures were used in determining the ratings recommended by A.S.A.E. and S.A.E. tractor rating codes. Tests C, D, E, G and H were made with an operating setting of the carburetor (selected by the manufacturer) of 95.0% of maximum horsepower.

Observed maximum horsepower (tests B & F)	Drawbar 31.79	Belt 45.69
Sea level (calculated) maximum horsepower (Based on 60° F. and 29.92" Hg.)	Drawbar 34.46	Belt 48.07
Highest permissible horsepower ratings (As recommended by A.S.A.E. and S.A.E. codes)	Drawbar 25.85	Belt 40.86

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 268.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

C. W. Smith

L. W. Hurlbut
Board of Tractor Test Engineers